



CALPINE

Cogen 05. 01 .01

KING CITY COGENERATION
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November 11, 2004

Ms. Donna Stone
Compliance Project Manager
Calpine King City Cogen, LLC
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

**RE: PETITION TO AMEND COMMISSION DECISION
CONDITIONS OF CERTIFICATION
DOCKET NO. 85-AFC-5**

Dear Ms. Stone:

Pursuant to Section 1769 of the California Energy Commission (CEC) Siting Regulations, Calpine King City Cogen, LLC (KCC) hereby submits the attached Petition to amend Docket No. 85-AFC-5 Conditions of Certification to include administrative changes that have been requested of the MBUAPCD. The changes to the Title V and Permit to Operate have been previously discussed with the MBUAPCD and will not have any adverse impacts to the environment or the public.

Please contact me at (831) 385-4090 if you have any questions regarding this submittal.

Sincerely,

Maria Barroso

Maria Barroso
Compliance Manager

PETITION FOR INSIGNIFICANT AMENDMENTS TO OPERATIONS CONDITIONS OF CERTIFICATION

As required by Section 1769 of the CEC Siting Regulations, KCC hereby submits the following discussion to amend DOC Condition 20 of KCC's Application for Certification 85-AFC-5.

Pursuant to Section 1769 (a)(1)(A) and (B), a description of the proposed modifications, including new language for affected conditions and the necessity for the modifications is required.

The modifications proposed to the conditions of certification are as follows:

To clarify that emission limits are based on rolling averages and not instantaneous measurements, we propose to change the following conditions:

Conditions of Certification 6: Emission of carbon monoxide in the turbine exhaust discharge to the atmosphere shall not exceed 10 ppmv (3-hour rolling average), calculated at 15 percent O₂, dry.

DOC Condition 2: While firing on natural gas the emissions of oxides of nitrogen, as NO₂, in the turbine exhaust discharged to the atmosphere shall not exceed 9 ppmvd (1-hour rolling average), calculated at 15 percent O₂ dry.

DOC Condition 3: Emissions of ammonia in the turbine exhaust discharged to the atmosphere shall not exceed 10 ppmv (3-hour rolling average), calculated at 15 percent O₂, dry.

DOC Condition 10: While firing on natural gas, the emissions of oxides of nitrogen, as NO₂, in the auxiliary boiler exhaust discharged to the atmosphere shall not exceed 40 ppmvd (1-hour rolling average), calculated at 3 percent O₂ dry.

To maintain consistency throughout Calpine plants and to implement an ammonia monitoring technique that is more accurate and operator friendly, we are requesting that DOC Condition 20 be changed to require the monitoring of the ammonia slip as a concentration level as opposed to a molar ratio of injected ammonia to gas turbine outlet (HRSG) NO_x. This calculation has been approved by the MBUAPCD and includes a bias factor, which relates the calculation to the results of each source testing conducted at the plant. In order to reflect the current calculation being used to monitor ammonia slip as agreed to by the MBUAPCD, KCC proposes to change the Application for Certification Condition as follows:

DOC Condition 20: ~~A continuous monitoring system must be installed and operated to monitor and record the mole ratio of injected ammonia to gas turbine outlet (HRSG)~~

NOX. This system must be accurate to within ± 5 percent. The ammonia emission concentration shall be monitored by using a District-approved corrected ammonia slip calculation. The correction factor shall be determined during any District required source test.

We have requested of the MBUAPCD that KCC be allowed to reduce the frequency of ammonia emissions stack testing from semi-annual to annual, based on the history of results, which consistently show the ammonia emissions to be less than 5 ppm:

DOC Condition 27: King City Cogen shall conduct quarterly tests in the first year, and semi-annual tests in the succeeding years, to determine turbine stack discharge ammonia emissions. Tests shall be conducted in accordance with MBUAPCD test procedures and the District shall be notified at least 7 days prior to testing. The test results shall be submitted to the District within ~~thirty~~ sixty days after testing.

Pursuant to Section 1769 (C), a discussion is required on if the modification is based on information that was known by the petitioner during the certification proceeding, and an explanation of why the issue was not raised at that time.

The changes to CEC 6 and DOC 2, 3, and 10 are administrative in nature, and were overlooked at the time of the certification proceeding.

The change being requested to DOC Condition 20 is based on new information that was learned as a result of operating experience gained at the facility and was not known at the time of certification.

The changes being requested to DOC Condition 27 are based on consistently low ammonia emissions shown by the history of stack testing at the site. This information has been accumulated over the life of the project, and therefore was not known at the time of certification.

Pursuant to Section 1769 (D), a discussion is required on whether the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, and explanation of why the change should be permitted.

The changes to CEC 6 and DOC 2, 3, and 10 are administrative in nature, and have no impact on original assumptions or other bases of the final decision.

The proposed change to Condition 20 is based on information learned after the completion of the certification process during the commissioning and operation phase of the project.

The proposed change to Condition 27 is based on source test data collected since the plant has been in operation and, therefore, was not known during commissioning.

Pursuant to Section 1769 (E), an analysis of the impacts the modifications may have on the environment and proposed measures to mitigate any significant adverse impacts is required.

The proposed changes to the conditions of certification will not result in any significant adverse environmental impact.

Pursuant to Section 1769 (F), a discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards is required.

The proposed amendments will have a positive impact on the facility's ability to comply with applicable laws, ordinances, regulations, and standards. The proposed change in the calculation method for ammonia slip is more accurate than previous methods used.

Pursuant to Section 1769 (G), a discussion of how the modifications affect the public is required.

Calpine asserts that the proposed modifications to the conditions of certification will not adversely affect the public.

Pursuant to Section 1769 (H), a list of property owners potentially affected by the modification is required.

The proposed amendments are administrative in nature, therefore no property owners will be affected by the modifications.

Pursuant to Section 1769 (I), a discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings is required.

The proposed amendments will have no impact on property owners, the public, or any other parties.

Ammonia Slip Calculation:

$$\text{NH}_3 \text{ slip (ppmv)} @ 15\% \text{ O}_2 = ((\text{NH}_3 \text{ fed ppm} - (\text{NOx In ppm} - \text{NOx out ppm})) * ((20.9 - 15)/(20.9 - \text{O}_2))) * b$$

Where:

$$\text{NH}_3 \text{ fed in ppm} = ((\text{NH}_3 \text{ injection rate, lb/hr} * a) / (Q * Fd * 4.4096 \times 10^{-8})) * ((20.9 - \text{O}_2 \%) / 20.9)$$

$$4.4096 \times 10^{-8} = (K\text{-factor constant}) \text{ corrects for the molecular weight of ammonia.}$$

$$a = \text{Ammonia Concentration (in \% by wgt/100)}$$

$$b = \text{Correction Factor based on source test data}$$

$$Q = \text{Fuel Flow mmbtu/hr}$$

$$Fd = 8710 \text{ scf/mmbtu}$$



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March 10, 2005

Mr. Mike Sewell
Monterey Bay Unified Air Pollution Control District
24580 Silver Cloud Court
Monterey, CA 93940

RE: Comments to Title V preliminary draft permits for King City Cogen, LLC and Gilroy Energy Center, LLC (for King City Energy Center).

Dear Mr. Sewell,

Staff has reviewed the preliminary draft permits for the King City facilities and we have the following comments:

- On the Title V permit and PTO we request the facility name for the peaker should read Gilroy Energy Center, LLC (for King City Energy Center).

- Condition 34 should read such that performance testing is not required more frequently than once a year.

34. *A performance test of the LM 6000 turbine shall be conducted every 4,000 operating hours, but not less frequent than once every three years or no more frequent than once a year.*

- Condition 57 should be corrected to reflect the 4 days required to submit the final breakdown report and the requirement that the responsible official sign final breakdown report to comply with Title V requirements.

57. ... *"The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO within ~~five (5)~~ four (4) calendar days after the occurrence has been corrected. This report shall include at a minimum [District Rule 214]:*

- a statement that the condition or failure has been corrected and the date of correction; and*
- a description of the reason(s) for the occurrence; and*
- a description of the corrective measures undertaken and/or to be undertaken to avoid such occurrence in the future; and*
- an estimate of the emissions caused by the condition or failure; and*
- final report must be signed by responsible official or alternate responsible official.*



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- Condition 58, item D should be further clarified to list only reporting requirements. Item D as modified specifies conditions 42 through 56, however, these conditions specify both reporting and recordkeeping requirements. We request that only those conditions pertaining to reporting be listed or all data required in 15 minute, hourly and monthly reports be listed explicitly.
- We request that all instances where a "one hour rolling average" is specified in the permits it be replaced with a "one-hour average".

If you require additional information please give me a call at (831) 385-4090 x 11.

Sincerely,

Michael DeBortoli

Michael DeBortoli
Operations & Maintenance Manager

Enclosures

Cogen File 05.02.05.08

CC: EPA Region IX.

CEC